AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-15 (canceled).

- 16. (New) A simulation system for computer-implemented simulation and verification of a control system under development, comprising:
 - a simulation host;
- a simulation target operatively connected to the simulation host, wherein an operating system of the simulation target representing at least a part of the control system is reconfigured by the simulation host via a first application programming interface associated with the operating system of the simulation target.
- 17. (New) A simulation system according to claim 16, wherein the operating system is a real-time operating system.
- 18. (New) A simulation system according to claim 17, wherein the operating system is reconfigured after downloading an executable software onto the target, whereby a real-time behavior of a software of the simulation target is one of defined and altered.
- 19. (New) A simulation system according to claim 16, wherein the first application programming interface associated with the operating system is a part of the operating system.
- 20. (New) A simulation system according to claim 16, further comprising:

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a second application programming interface associated with the operating system, wherein the second application programming interface associated with the operating system is a part of the operating system;

wherein the first application programming interface associated with the operating system is not part of the operating system.

- 21. (New) A simulation system according to claim 16, wherein the simulation host includes at least one modeling tool, and wherein a software of the control system is executed on the simulation target.
- 22. (New) A simulation system according to claim 21, further comprising:
- a target server for connecting the at least one modeling tool with the simulation target.
- 23. (New) A simulation system according to claim 22, wherein the target server includes a protocol driver of a communication protocol used for communication with the simulation target.
- 24. (New) A simulation system according to claim 16, further comprising:
- a plurality of simulation process modules with corresponding memory modules and interface modules, wherein the simulation process modules represent distinct memory locations for facilitating inter-module communications.
- 25. (New) A simulation system according to claim 24, wherein the computer-implemented simulation is performed by executing a control system simulation model, and wherein the control system simulation model includes a plurality of sub-models

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executed on the corresponding plurality of simulation process modules.

- 26. (New) A simulation system according to claim 24, wherein at least some of the simulation process modules are dynamically reconfigurable by communication via the distinct memory locations.
- 27. (New) A host unit for a simulation system for computerimplemented simulation and verification of a control system under development, the simulation system having a host-target architecture, comprising:

a simulation host, wherein the simulation host is operatively connected to a simulation target, and wherein an operating system of the simulation target representing at least a part of the control system is reconfigured by the simulation host via a first application programming interface associated with the operating system of the simulation target.

28. (New) A computer-implemented method for simulating and verifying a control system under development, comprising:

providing a simulation host operatively connected to a simulation target; and

reconfiguring an operating system of the simulation target representing at least a part of the control system by the simulation host via a first application programming interface associated with the operating system of the simulation target.

29. (New) A computer-readable storage medium for storing a computer program that performs, when executed on a computer, a method for simulating and verifying a control system under development, the method comprising:

providing a simulation host operatively connected to a simulation target; and

reconfiguring an operating system of the simulation target representing at least a part of the control system by the simulation host via a first application programming interface associated with the operating system of the simulation target.

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